RECEIVED
CENTRAL FAX CENTER
AUG 25 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Kajander

Art Unit: 1794

Serial No. 10/780,069

Case Docket No.7362

Filed: February 17, 2004

Examiner: Lynda Salvatore

For: **Laminate Containing A Coated Nowoven Mat With A Smooth Surface**

Commissioner of the Patents & Trademarks
Alexandria, VA 22313-1450

Dear Sir:

In response to the Examiner's Answer mailed July 21, 2008, Applicant submits this Reply Brief.

REPLY BRIEF

Applicant believes the Examiner's apparent interpretation in the Examiner's Answer of the limitation "at least 95 wt. percent of the particles of clay and inorganic filler having a particle size of less than 200 mesh", and Jaffee's teaching that the particles are of a size ranging from minus 40 mesh and plus 100 mesh" is erroneous and misleading, resulting in the Examiner's incorrect statement that the limitation in the claims of "at least 95 wt. percent of the particles of clay and inorganic filler having a particle size of less than 200 mesh" is met by the Jaffee teaching of "minus 40 and plus 100 mesh".

As evidenced by the explanation of mesh size in the enclosed Exhibit 1, from Wikipedia, and the first two sentences of the first full paragraph on page 4 of applicant's specification, "The clay used in the coatings is ground to preferably at least 95 wt. percent minus 200 mesh (U.S. Standard) and more preferably at least 95 wt. percent minus 325 mesh. The fillers used in the coating are preferably at least 95 wt. percent minus 100 mesh and more preferably at least 95 wt. percent minus 200 mesh", including the reference to (U.S. Standard), shows clearly that the "minus 40 and plus 100 mesh" teaching of Jaffee clearly does **not** meet the art accepted usage/meaning of the limintation of "at least 95 wt. percent of the particles of clay and inorganic filler having a particle size of less than 200 mesh." As shown by the use of "minus 325 mesh" in applicant's claim 27, selected actual dimensions in claim 28 and also as shown by the Sieve size conversion chart on page 3 of the Exhibit, Jaffee's particles of minus 40 mesh and plus 100 mesh having a particle size range of 0.422 mm to 0.152 mm would not meet the limitation of at least 95 wt. % of the particles in the claimed invention being less than 200 mesh, i.e. having a particle size of no larger than 0.075 mm.

For the above reason and those set forth in the Amended Appeal Brief applicant believes that the claims are in patentable under 35 USC 103 a, and respectfully requests the Board of Appeals to reverse the Examiner's rejection of the claims.

Respectfully submitted,

Robert Touslee

Attorney for Applicants

Robert D. Touslee
Registration No. 34,032
Customer No. 29602

Exhibit 1

Mesh (scale)

From Wikipedia, the free encyclopedia

For other uses, see Mesh (disambiguation).

Mesh material is often used in determining the particle size distribution of a granular material. For example, a sample from a truckload of peanuts may be placed atop a mesh with 5 mm openings. When the mesh is shaken, small broken pieces and dust pass through the mesh while whole peanuts are retained on the mesh. A commercial peanut buyer might use a test like this to determine if a batch of peanuts has too many broken pieces. This type of test is common in some industries, and to facilitate uniform testing methods, several **standardized mesh series** have been established.

Applicable standards are ISO 565 (1987), ISO 3310 (1999), ASTM E 11-70 (1995), DIN 4188 (1977), BS 410 (1986) and AFNOR NFX11-501 (1987).

Contents [hide]

[edit]

Tyler mesh size

One well-known mesh series is the Tyler Equivalent created by the W.S. Tyler screening company[1] . Tyler mesh size indicates exactly the number

of openings per square inch of mesh. For instance, a Tyler number 4 mesh will have 4 openings per square inch, and 16 means it will have 16 openings per square inch. To calculate the size of the openings in a mesh the thickness of the wires making up the mesh material must be taken into account. In practice, mesh openings are determined referring to a chart like the one below.

[edit]

Variation in mesh openings

Some standards use the mesh designation as the number of wires rather than the size of openings (see Tyler, above). There can be significant differences in particle size passing small laboratory screens versus large heavy-duty industrial screens due to the different wire sizes used. Thicker wire results in a smaller opening size for an equivalent mesh. An example of variation moving between machine sizes is:[2]

Laboratory sieve cloth

Sieve	Wire width	Opening	Opening
10 Mesh	0.090" [3]	0.0787 in	2000 µm

Medium industrial screen cloth

Sieve	Wire Width	Opening	Opening
10 Mesh	0.035 in	0.0650 in	1651 µm

Heavy industrial screen cloth

Sieve	Wire Width	Opening	Opening
10 Mesh	0.047 in	0.053 in	1346 µm

[edit]

Particle size distribution

Powders and granular materials are sometimes described as having a certain mesh size (e.g. 30 mesh sand). By itself, this type of description is somewhat ambiguous. More precise specifications will indicate that a material will pass through some specific mesh (that is, have a maximum size; larger pieces won't fit through this mesh) but will be retained by some specific tighter mesh (that is, a minimum size; pieces smaller than this will have passed through the mesh). This type of description establishes a range of particle sizes.

One notation for indicating particle size distribution using mesh size is to use + and - designations. A "+" before the sieve mesh indicates the particles are retained by the sieve, while a "-" before the sieve mesh indicates the particles pass through the sieve. This means that typically 90% or more of the particles will have mesh sizes between the two values.

For instance, if the particle size of a material is described as -80/+170 (or could also be written -80 +170), then 90% or more of the material will pass through an 80 mesh sieve and be retained by a 170 mesh sieve. Using the conversion chart below, the resulting particles will have a range of diameters between 0.089 and 0.178 mm (89 and 178 micrometers).

[edit]

Abrasives

The Federation of European Producers of Abrasives (FEPA) has four sets of standards to denote size of grains coupled with the type of abrasive. The standards indicate a range of grit sizes that may come within any single designator which consists of a letter (F for bonded abrasives and P for coated abrasives) and a number. Within each series are two standards detailing the larger macrogrit (approximately 12 – 240) and smaller microgrit (approximately 230 – 2000 or 2500) sizes and the different process by which sizes are determined (sieving for the larger grits and sedimentation for the smaller).

While following the common practice of smaller designators meaning coarser grits and similar cut-off marks between macro- and microgrit

standards, the F and P series are not compatible. While F 12 and P 12 are only about 3% different in size, P 2000 is more than 750% larger than F 2000 (that is, the particles in F 2000 are about 8.5 times as large as those in P 2000).[4] [5]

Sieve size conversion chart

Typical openings in laboratory sieve series

Sieve size (mm)	BSS	Tyler (approx)	US (approx)
4.75	-	4	4
3.35	5	6	6
2.81	6	7	7
2.38	7	7	8
2.06	8	9	10
1.68	10	10	12
1.40	12	12	14
1.20	14	14	16
1.00	16	16	18
0.853	18	20	20
0.710	22	24	25
0.599	25	28	30
0.500	30	32	35
0.422	36	35	40
0.354	44	42	45
0.297	52	48	50
0.251	60	60	60
0.211	72	65	70
0.178	85	80	80
0.152	100	100	100
0.125	12	115	120

	0		
0.104	150	150	140
0.089	170	170	170
0.075	200	200	200
0.066	240	250	230
0.053	300	270	270
0.044	350	325	325
0.037	440	400	400

[edit]

Resources

Laboratory screen product guide, WS Tyler

[edit]

References

^ WS Tyler Company

^ ed. N.L. Weiss, "SME Mineral Processing Handbook", 1985, pp 3E-25 to 3E-41

^ WS Tyler laboratory screen catalogue

^ Fepa-Abrasives

^ Fepa-Abrasives

Categories: Customary units of measure | Systems of units

navigation
Main page
Contents
Featured content
Current events
Random article
search

interaction
About Wikipedia
Community portal
Recent changes
Contact Wikipedia
Donate to Wikipedia
Help
toolbox
What links here
Related changes
Upload file
Special pages
Printable version
Permanent link
Cite this page
languages
Deutsch
Italiano
Lëtzebuergesch
Русский